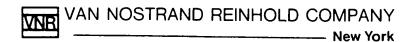
Hawley's Condensed Chemical Dictionary

ELEVENTH EDITION

Revised by

N. Irving Sax and

Richard J. Lewis, Sr.



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3-10% zinc, the solid luble in acetone. Com-

xide or hydroxide and itation from mixture sodium naphthenate. it in paints, varnishes, e, and mildew prevenaterproofing textiles,

or crystals, soluble in 55 (13C), mp 36.4C. ion between 105 and

acid on zinc or zinc

explosion risk, strong

oagulant, reagent, in-

orylate.

exoate).

red, viscous liquid; d luble in hydrocarbon

an, greasy, granular 5% zinc; mp 70C; sobon disulfide, ligroin;

lutions of zinc acetate fusion of zinc oxide

ishes (drier).

oxy-2'-hydroxy-5'-

aination of zinc and

: arsenate.

nc phosphate.

silicate.

soluble in acids and water, d 2.562 (24C), mbustible.

Derivation: Interaction of zinc sulfate and sodium oxalate.

Use: Zinc oxide, organic synthesis.

zinc oxide. (Chinese white; zinc white). CAS: 1314-13-2. ZnO.

Properties: Coarse white or grayish powder, odorless, bitter taste, absorbs carbon dioxide from the air, has greatest UV absorption of all commercial pigments, d 5.47, mp 1975C, soluble in acids and alkalies, insoluble in water and alcohol. Noncombustible.

Derivation: (a) Oxidation of vaporized pure zinc (French process), (b) roasting of zinc oxide ore (franklinite) with coal and subsequent oxidation with air, (c) similar treatment starting with other ores, (d) oxidation of vapor-fractionated die cast-

Grade: American process, lead-free; French process, lead-free, green seal, red seal, white seal (according to fineness); leaded (white lead sulfate); USP; single crystals.

Hazard: zinc oxide fume is harmful by inhalation. Zinc oxide powder reacts violently with chlorinated rubber at 215C. TLV (fume): 5 mg/m³ in air.

Use: Accelerator activator, pigment and reinforcing agent in rubber, ointments, pigment and mold-growth inhibitor in paints, UV absorber in plastics, ceramics, floor tile, glass, zinc salts, feed additive, dietary supplement, seed treatment, cosmetics, photoconductor in office copying machines and in color photography, piezoelectric devices, artists' colorant.

zinc oxychloride. A saturated solution of zinc chloride and zinc oxide. Use: Dentistry.

zinc palmitate. $Zn(C_{16}H_{31}O_2)_2$.

Properties: White, amorphous powder; d 1.121; mp 100C; insoluble in water and alcohol; slightly soluble in benzene and toluene. Combustible.

Use: Flatting agent in lacquer, pigment suspending agent for paints, rubber compounding, lubricant in plastics.

zinc perborate. Zn(BO₃)₂ with water of hydra-

Properties: Amorphous white powder, insoluble in water but slowly decomposed by it, liberating hydrogen peroxide.

Derivation: Interaction of sodium peroxide, boric acid, and zinc salt, or of boric acid and zinc

Hazard: Fire risk when wet, in contact with organic materials.

Use: Medicine, oxidizing agent.

zinc permanganate. CAS: 23414-72-4. $Zn(MnO_4)_2 \cdot 6HOH$.

Properties: Violet-brown or black, hygroscopic crystals, d 2.47, loses 5HOH at 100C, decomposes on exposure to light and air, soluble in water and acids, decomposes in alcohol.

Grade: Technical (95% pure).

Hazard: Dangerous fire risk in contact with organic materials, strong oxidizing agent. Use: Oxidizing agent, medicine (antiseptic).

zinc peroxide. (zinc dioxide). CAS: 1314-22-3. ZnO₂.

Properties: White powder containing 45-60% ZnO₂, balance ZnO; d 1.571; decomposes rapidly above 150C; decomposes in acids, alcohol, acetone; insoluble in water but decomposed by it. Derivation: Action of barium peroxide on zinc sulfate solution, followed by filtration.

Grade: USP (mixture of peroxide, carbonate, and

hydroxide), technical 50-60%.

Hazard: Severe explosion risk when heated; explosive range 190-212C. Fire risk in contact with organic materials; strong oxidizing agent.

Use: Curative for rubber and elastomers, pharmaceuticals, high-temperature oxidation.

zinc phenate. (zinc carbolate; zinc phenolate). $Zn(C_6H_5O)_2$. (May be only a mixture of zinc oxide and phenol).

Properties: White powder, soluble in alcohol, slightly soluble in water. Combustible.

Derivation: By heating zinc hydroxide with phenol and extracting with alcohol.

Hazard: Toxic by ingestion.

Use: Insecticide.

zinc-1,4-phenolsulfonate. (zinc sulfophenate; zinc sulfocarbolate). CAS: 127-82-2. $Zn(SO_3C_6H_4OH)_2 \cdot 8HOH.$

Properties: Colorless, transparent crystals or white granular powder; odorless; astringent metallic taste; effloresces in air; turns pink on exposure to air and light; loses water of crystallization at 120C; soluble in water and alcohol.

Derivation: By heating zinc hydroxide with p-phenolsulfonic acid.

Grade: Technical.

Hazard: Toxic by ingestion.

Use: Insecticide, medicine (antiseptic).

zinc phosphate. (zinc orthophosphate; zinc phosphate, tribasic). CAS: 7779-90-0. . Zn₃(PO₄)₂.

Properties: White powder, soluble in acids and ammonium hydroxide, insoluble in water, d 3.998 (15C), mp 900C.

Derivation: Interaction of zinc sulfate and trisodium phosphate.

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